C.O. Handley, Jr.

CANADA

23 March – 04 April 1949

23 Mar.

Wednesday 23 Mar 1949 Washington, D.C.

I left Union Station on the "Federal" at 2300, accompanied by Eddie Goodale of the Weather Bureau Arctic Operations Project, and eight other weather boys going north to the Arctic satellite stations as replacements. This departure culminated ten days of furious preparation at Washington, where I had arrived for action on the 14th. By the 18th, conferences had been completed, necessary supplies procured, the outfit packed, and the Air Force priorities obtained. The whole outfit, including clothing, which was sufficient to last for a year, totaled 1045 pounds and 53 cubic feet. The heavy winter clothing I obtained on loan from the Army Quartermaster Corps on the condition that I would make a report on its usefulness at Prince Patrick Island. On Monday the 21st, the outfit was dispatched to Westover Field Mass., for air shipment to Prince Patrick. Last minute preparations for departure filled the remaining days in Washington, especially since the Weather Bureau moved the date of leaving ahead one day at the last minute. Thus it was [illegible]

ruching and to bear the brain tonight, despite the fact that I despise Pullmans.

Thursday. 24 March 1949 Springfield, Mass., to Goose Bay, Labrador. The train pulled into Springfield at 0845 and taxis took us on to Westover Air Force Base at Chicopee Falls. I rode out with the correspondent Joseph C. Harsch, and had an interesting time comparing notes on war time Europe with him. He is on his way to Europe to do a story on "Four years after". He was there in the spring of '45 and again in 1947. At Westover, which is a huge MATS (Military Air Transport Service) base in the picturesque Berkshire (?) Hills, we went directly to the Port of Aerial Embarkation in the terminal building. Westover handles a great number of transients and is much like a civilian airport, for all the government traffic for points northward and for Europe clears thru here. Processing here consisted of having orders checked, filling out several forms, being weighed in along with baggage, having innoculations checked (I had to have smal pox vaccination and typhoid shot since mine had expired), and showing proof of identity and citizenship.

Much to our surprise, we were alerted for an afternoon flight to Goose Bay.

24 Mar.

We naturally expected to have to wait for a day or two at least. Nevertheless, we boarded our scheduled 1700 flight and took off at 1700. The plane was a C-54 — a plush job — and carried a load of frozen meat and 12 passengers. The interior of the plane was line with plyboard and it was equipped with plush type seats which were removable, so that the number of seats could always equal the number of passengers. The cargo was lashed along one side of the plane and the seats were on the other. We were accompanied by a corporal who acted as a flight attendant and served coffee and an in-flight lunch, which was quite good. The army was never like this when I was in it!

Our flight climbed to its assigned altitude of 9,000 feet (northbound flights odd altitudes; southbound - even) as we passed northward over Portland (at 1800), Augusta, Bangor and Presque Isle, Maine, Campbellton and Mingan, Quebec, and finally descended to Goose Bay, Labrador, at 2215 (2315 local time - Atlantic ~~Standard~~). I didn't get to see very much of the country along the way, for it was dark before we reached Bangor. I did, however, see the lake dotted

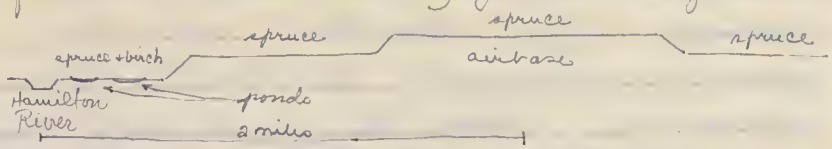
southern part of Maine, Mt. Washington far off in the distance, silhouetted by the setting sun, and the unique glacier scoured islands along the coast of Maine.

The change in climate on this trip was considerable, to say the least. At Westover it was warm and springlike, horned larks were singing and there was no snow on the ground, but at Goose Bay we were greeted by a blizzard, 20° temperature, zero, to six feet of snow and drifts clear to the eaves of the buildings. A GI bus picked us up at the door of the plane to the mess hall for coffee and sympathy, took us to the terminal to pick up our baggage which had been checked from Westover, and finally deposited us at the G.I. hotel "Ye Olde Oink" — for officers and civilians only.

The hotel is quite operated, but is like a civilian establishment. My room has a plush carpet, pink curtains and bed spreads, steam heat, two inner spring matresses on the bed, basin with hot water, maid service, and a shower across the hall — all for 75¢ per night

25 Mar - 3 Apr.

25 March - 3 Apr. 1949 Goose Bay, Labrador.
Goose Bay is a very beautiful place, especially, I imagine, at this time of the year when the snow is so deep. The airbase is set in the midst of the black spruce forest on the highest terrace of the peninsula between the Goose and Hamilton Rivers which flows into ~~Goose Bay~~ Lake Melville just east of the base



There are spruce clad mountains a few miles distant in each direction which add a pleasing contrast to the landscape. Characteristic of northern rivers, the Hamilton has high steep banks which are kept scoured out by spring floods.

The first terrace above the river is covered with dense spruce and white birch forest and has numerous ponds. There are also several rocky ridges eminent between the 1st and 2nd terrace. Above the 2nd terrace there is an extensive bog - muskeg of peat. There is virtually little or no [illegible] in the muskeg [illegible] spruce rather far apart. [illegible] a [illegible] [illegible] [illegible] [illegible] [illegible]

the upper terraces are comparatively small, being under 50 feet in height. There are supposed to be much larger trees somewhere nearby.

The air base is a large one, with all American facilities on one side and all Canadian on the other. To go from one side to the other is like going from one country to another. Despite the joint use, the Canadians operate the control tower exclusively. Goose Bay is now principally a MATS and Search and Rescue base as far as the American operations are concerned. During the war it was an overseas feeder base, and as many as 8,000 planes a month passed thru, headed for Europe. Now the volume of traffic is of course only a trickle compared to those days. Two American flights go daily to Westover, others periodically to Greenland, Resolute, the Crystal stations, Newfoundland, and other points. The Canadians have daily flights to their main feeder base at Dorval (Montreal) and at least one overseas airway comes thru Goose (Swedish I think). Every summer two or three supply vessels come up Hamilton Inlet and Lake Melville to Goose Bay to bring in heavy supplies.

otherwise, the place is kept running with airborne supplies.

The place is surprisingly neat for a GI establishment. The tarpaper covered buildings with green weather stripping are set among the spruces in a very pleasing fashion. There are almost no Quonset huts, and, on the American side, almost no permanent buildings. The Officer's Club is a good one, well decorated except for the ballroom - dining room which is certainly out of style as far as Labrador is concerned. This monstrosity is decorated in the style of an 18th Century drawing room, or a prehistoric Greek villa - we never did decide just which period it represented. The lounge, with a great sufficiency of plush furniture and a new $750 Zenith radio-phono console, is done in red and blue and has a very elaborate coat of arms above the fire place. The bar room is red and the walls are plastered with travel posters of every imaginable U.S. and Foreign airline, and lined with dozens of slot machines, offering every degree of luxury from 5¢ pin crack to 50¢. There certainly are a lot of suckers. Supper music to

furnished in the dining room by an eight piece band. A juke box furnishes atmosphere for the other meals. The base is loaded with people. There are probably more transient than permanent officer and civilian personnel. Women are surprisingly numerous - GI wives, nurses, and beefy civilian workers.

The Air Force has to maintain a large fleet of snow removal equipment to keep the runways and roads clear. They must be in almost continuous operation, at this time of the year at least, to keep ahead of the snow. Big snow blowers crawl up and down concret strips and aprons all the time. It snowed lightly but continuously the first week we were here - an inch or two or three every day.

I took daily walks to wherever I could get by road. Off the thoroughfares the snow is far too deep - 5 or 6 feet, - to be negotiated without snowshoes or skis. One afternoon, however, I improvised a pair of snowshoes from a packing carton I found beside the road - used its top and bottom and binding wires to fashion a pair of clumsy but efficient snowshoes - and tramped off over the snow free as a

bird. The 18 x 24 inch rectangles left a very curious trail thru the woods.

There are a lot of red squirrels and varying hares around, some of each even in camp, but I saw no sign of other mammals. The red squirrel's chatter is somewhat different from that of either abietícola or loquax which I am familiar with down south - it is more husky and less shrill and trilling.

Birds are rather scarce, but only once did I go for a walk without seeing any. Most common are the brown-capped chickadees, especially in camp. Usually they are in flocks of six to twelve individuals. One afternoon I saw five flocks. Their calls, when heard at a distance, are very suggestive of the siskin's whistles or twitters. On the 25th I noticed two black-caps among a flock of browns in camp, but no others were seen. (Later I was astonished to learn that the black-cap is not recorded for Labrador.) The next most numerous bird was the Canada Jay. ~~Them there~~ It was usually seen in groups of three and seldom were more than two or three

groups seen in the course of an afternoon's walk. They were both in camp and along the roads outside. They were easily attracted by the squeak and frequently followed me for some distance after I had quit squeaking. Their movements, both when they were at rest and when flying, were so slow and deliberate as to be amusing. ~~They are a~~ They are curious looking birds not at all jay-like — more like a great titmouse crossed with a shrike. The ones I saw were usually silent, but I did hear them utter occasionally a loud, husky, somewhat Baltimore oriole-like chatter. Also there was a subdued note somewhat like the alarm note of the robin. Ravens were seen and heard on several occasions as they flew over, but never more than two at a time. On the 28th I saw a solitary northern shrike along a road thru the forest near the Hamilton River. I was was struck by its large size as it perched on top the small spruces. It looked as large as a Canada jay or sparrow hawk, and I don't

see how it possibly could be confused with one of the smaller southern shrikes. It pumped its tail in typical shrike fashion as it perched in the tree tops and flew with typically rapid shrike wingbeats. White was noticeable in its wings when it flew. On the 29th I saw two birds flitting from tree top to tree top which were probably pine grosbeaks, but they were too distant for me to be sure. It is very exasperating not to be able to leave the road, because of the snow. MacDonald and I saw a woodpecker of some sort in camp on the 30th, but it flew away out of sight. There is some sign of woodpeckers, probably three-toes, in the woods.

This is the year that I get to see three springs. Spring came to Charleston, West Va, while I was there in February and March, will probably come to Prince Patrick about mid-summer. It came here to Goose Bay this week. Snow has been melting off the roofs since the day after we arrived. The first rain of the season fell on the 30th and more on the 31st.

The hard packed snow a foot or more thick on the strut and roads began to melt on the 31st and by the afternoon of April 1st was completely gone. The snow clearing equipment really worked overtime to remove the melting snow before it could turn to slush and make ~~the~~ a quagmire of the roads. Their efforts were successful too. Off the roads the snow is settling at a noticable rate but runoff water is not yet apparent.

On the same day that we arrived here a C-47 on skis stalled on takeoff and crashed at Resolute Bay, and a C-82 was lost between here and Resolute. All available planes were used to search for it, so all the airlift to Resolute was halted. The lost plane was able to send out radio signals but no position. By triangulation it was located in Smith Sound north of Makinson Inlet, 250 miles NE of Resolute Bay. It had simply become lost and had crash landed on the ice when it ran out of gas. No one was hurt and rescue was effected by a C-47 which landed on the ice. During the search operation a B-17 crashed up at Resolute, making that place a veritable graveyard,

since it already has a washed out C-54 from last winter.

Eddie Goodale and 5 of the boys went north at 3AM on the 28th and four others went up at 11AM on the 29th after being on alert from 3AM. Mr. Hubbard came in on the 29th and went north on the 31st. Only Stuart MacDonald of the National Museum of Canada and I were left. Time hung very heavily on our hands. None of our equipment was available to us and there was nothing to do. There was no use to get up for breakfast. In the afternoons we went for walks as far as the plowed out roads would permit. I woefully unprepared for such warm weather - all my warm weather gear was packed in my outfit, since I expected to have no use for it before June. In the evenings we went to a movie or read or wrote or listened to the radio or record player. Living facilities at Resolute are certainly nothing compared to what we have here, but the novelty of Goose Bay wore off as soon as its confinement became apparent.

MacDonald has suffered from the inactivity to such an extent that he had to go to the doctor to see if anything was seriously wrong with him. He complained for several days of feeling groggy, but it was just from too much sleeping and eating and not enough exercise. He has been a preparator at the National Museum of Canada in Ottawa since last summer. He spent that season collecting out in Saskatchewan with Earl Godfrey. He is 21 and is from a farm near Satamaqush in Northern Nova Scotia. He has not been to college, but learned ornithology and taxidermy on his own. He is also somewhat of an artist. He is mainly interested in collecting and preparing habitat groups, and cares nothing for taxonomy.

During most of the preparation for this expedition it was assumed that I would carry it to completion alone. Stuart MacDonald was an unexpected but welcome addition. The trip had its conception last fall on the day that I returned to Washington from the Naval

25 Mar - 3 Apr.

Summer Arctic Operation No. 3. I told Dr. Wetmore that such trips as that had reached the point of diminishing returns from a biological point of view and suggested the possibility of a more extended exploration at one of the satellite stations. He was favorably impressed by the prospects and agreed to take the matter up with Mr. Charles Hubbard, Chief of the Arctic Operations Project of the U.S. Weather Bureau, whom I have known from three summer's association on the icebreakers. We agreed that Prince Patrick Island offered the best possibilities for a biological study of a totally unexplored area, and picked Isachsen Land as second choice.

The first hurdle, that of getting the approval of the U.S. Weather Bureau, was easily accomplished thru informal talks with Mr. Hubbard. He and I were fortunately good friends. However, the Arctic weather stations are joint affairs under the jurisdiction

of the Canadian government. Thus, it was necessary to dispatch a request for permission thru the State Department to the Canadian authorities. This was an ice-breaking proposition, for never before had the arctic stations been utilized as bases for any scientific investigation except in the fields of physics and meteorology. The Canadians were quite receptive to the proposal and offered their agreement with one stipulation. During the final stages of planning Dr. Alcock of the Canadian museum requested that MacDonald be allowed to go along to make collections for them. He agreed that I should have publication rights on all the material gathered. MacDonald's company should make it possible to accomplish much more in the way of field work.

By this time it was already mid-February, and the airlift operations were supposed to commence the latter part of march. I dropped my studies at the University of Michigan for a year to make the trip, and planned to utilize the investigation

25 Mar - 3 April.

for my doctoral thesis. The plan was for me to fly into Mould Bay, Prince Patrick Island, with the April supply airlift and to come out in October if an airstrip could be constructed during the summer. The crew at Mould Bay last year failed in an attempt to fashion an airstrip out of the tundra. The Weather Bureau estimates that the odds against getting out in the fall this year are six to four. The alternative is spending the winter at Mould Bay and coming out in the spring of 1950 with the airlift. Thus, all my planning had to be on the prospects of a full year in the Arctic, tho I was hoping mightily that the stay would be only ~~the~~ six months.

MacDonald would apparently prefer to plan on none at all. He was assigned to the trip without choice and is not very happy about it. Before this came up, he was all set for another summer trip with Godfrey out to the Alcan Highway.

3 Apr.

3 Apr 1949. Goose Bay, Labrador to Crystal II (Frobisher Bay), Baffinland.

We at last got started north again today with prospects of arriving at Resolute tomorrow. It has become very warm here. Last night it didn't even freeze and today it has been comfortable out of doors in shirtsleeves as there was a warm sun and no wind. Birds were very much in evidence in the morning and I heard several snow buntings fly over. I had been previously much surprised by their absence. I got up for breakfast and church this morning — as a matter of fact I have gotten up by seven three days in a row now, having long since caught up on sleep. I have utilized the mornings for some thinking on the summer's work. This important phase of the operation has been sadly neglected till now because of the pressure of other duties.

Mr. Taylor, the CO from Ipachsen came in this morning, headed south. Unfortunately I missed him but MacDonald talked with him for a little while and picked up a little information on the Ipachsen fauna. He says animals are extremely scarce. No muskoxen have been seen — only one skeleton, and only one or two bunches of caribou. There are numerous ptarmigan and glaucous and

3 Apr

ivory gulls. Interestingly enough he reports that a few pairs of both brant and Hutchin's geese bred near the station last summer. Maybe Stefffanson really did see Hutchin's geese on Meinghen!

Were were alerted for 1700 take off and actually left the ground at 1645, which is phenomenal, since the experience of the people going north before us has usually been a six to seventy-two hour delay. The C-54 we used was heavily laden with supplies and the outfits of MacDonald and myself. In place of plush seats we have bucket seats — kind of a hammock-like outfit with webbing back rest. They are all along one side of the plane. It is impossible to see out from the seats, as the passenger sits with his back to the wall staring the cargo in the face. We are carrying, among other things, fresh onions. As soon as the plane is airborne the passengers are permitted to move about and look out of any window they choose.

This plane is going to be used along with three other 54's and 82's to complete the airlift from Resolute

3 Apr.

and Thule to the satellites. There are six hundred tons of stuff to go into the three stations — Mold Bay, Isachsen, and Eureka, and it is expected that it will require three weeks to move it all. As several flights may be made each day, there are four pilots and a navigator as well as the enlisted crew.

Poor visibility sort of spoiled this trip. Everything was fine for seventy-five or a hundred miles north of Goose Bay but then we came over heavy overcast. From there on we caught only occasional glimpses of the ground until we were over Ungava Bay.

Both the Hamilton and Goose Rivers, as well as Goose Bay and Lake Melville were still completely ice bound with no sign of break up. Lofty snow capped mountains (Mealy Mts.) could be seen off to the southeast of Lake Melville and some of lesser height were westward. Along our course, however we saw nothing more than hills, which had evidently been fashioned by the glacier, for they had no system in their arrangement or direction. There were lakes mostly small all over both on the hills and in the valleys. I saw many fine moraines and two beautiful eskers.

3 Apr.

There was very little exposed rock and not much tundra for the first hundred miles. Mostly spruce, spruce spruce: park-like in its spacing, just as at Goose Bay. What tundra there was, was of small extent and was scattered irregularly without respect to valley or hill top. Further north, the few scattered openings in the clouds revealed a predominance of tundra, with irregular strands and patches of spruce, all under a deep blanket of snow.

We passed out over Ungava Bay thirty miles east of Ft. Chimo and were in the clear all the rest of the way to Crystal II. The ice in Ungava Bay and Hudson Strait was all broken up and the small pans were loosely packed. A "wind Class" ice breaker could have easily negotiated these floes. There were even a few patches of open water several miles in extent in Hudson Strait.

The base of the Grinnell ~~Penn~~ Peninsula of southeastern Baffin was, where we crossed it, probably not over a thousand feet high but there was no really low, flat land. The seemingly barren, snow

covered rock hills rose right from the water's edge. The whole place seemed to be made up of an endless series of parallel rock backbones only a few feet apart. There were no lakes or ponds and no streams.

It was already dark when we set down ~~at~~ Crystal II at 2100 (2000 local time) — 4 hrs. 15 min. out of Goose Bay. I was surprised to find the ground temperature 12° above zero and not much wind blowing. There was a lot of snow on the ground, at least two or three feet, but it was all hard packed. As at Goose Bay it was ~~drifted and covered with~~ drifted up to the eaves of the buildings, which are wooden and covered with tar paper on the outside.

~~The~~ We climbed down a ladder from the plane and were carried in a closed truck to the mess hall for supper. Afterward we went to the ~~transient~~ officer's quarters for the night — for all of which we paid 25 cents. There was steam heat and hot and cold running water.

~~Ch~~ Crystal II is a radio range

station, air base, and weather station. A U.S. Army captain is in command and there are three lieutenants. There are a handfull of enlisted ~~men~~ personnel, a few civilians, a Canadian mountie, and some Eskimos.

4 April 1949. Crystal II (Frobisher Bay), Baffin Island to Resolute Bay, Cornwallis Island. This morning we got off at 0800 with enough gasoline to fly us to Resolute and back if need be. Also we had rations aboard for thirty days, heavy clothing, sleeping bags, and stoves, so that we would be well fixed in case of emergency. The weather was bad. The aerologist reported that we would have to go to nine thousand feet to get above the overcast, and that the visibility at Resolute Bay was only one to three miles, with blowing snow and ice fog. The temperature at Crystal II this morning was 10° above zero and at Resolute 24° below zero. Fortunately the plane was heated so it was not necessary to wear heavy clothing inside.

What I saw of the vicinity of Crystal II today, which was not much, was not different from what I saw last night except that there is a fair size frozen river just west of the base.

There was a pair of very tame ravens much in evidence about the buildings of the camp.

By 1015 it was rather uncomfortable because of the rarified atmosphere. There were not enough oxygen masks to go around - as a matter of fact, only one for the six passengers. Actually there were plenty of masks, but they had the wrong type of adapter for the outlets of this plane. However, I sat quietly while everyone else was standing up milling around, so I didn't suffer too much, and didn't need the mask either.

When we reached the northern end of Foxe Basin, suddenly there wasn't an overcast anymore. All the rest of the way to Resolute there was unlimited visibility. As we passed over Baffin Land, first the land was very low and flat and featureless, except for occassional rivers and lakes and eskers. Then there was a very gentle rise by stages to a central high of only a few hundred feet. There were

frequent belts of lakes and ponds and some areas were complexly twined with stream courses. I saw no cliffs or bold relief, although nearer the Prince Regent Inlet shore there were a few small canyons. In general, this shore, which we crossed near Cape Kay was neither very flat nor very bold. Hills of gentle slope rose close close behind the beach. All of Baffin Land that we flew over was deeply covered with snow.

Prince Regent Inlet showed signs of considerable ice movement. South of our course there was a conspicuous pressure line half a mile or so offshore, and north of it there was a wide, open, beach paralleling shore lead, which after several miles turned abruptly and bisected the inlet from shore to shore. Also there were a few smaller leads running in various directions.

¶ Crystal II is a radio range station, air base, and weather station. A U.S. Army captain is in command and there are two lieutenants. There are a number of enlisted men, civilians, a Canadian mounties, and some Eskimos.

SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM
WASHINGTON 25, D. C.

On Sunday, Crystal II (Frobisher Bay), Baffin Island to Resolute Bay, Cornwallis Is. The weather was at least good with enough sunshine to fly to Resolute and back if need be. Also, we had around rations for three days, heavy clothing, and sleeping bags, and stoves, so that we would be well fixed in case of emergency. The weather was bad, the aerologist reported, so we would have to go to nine thousand feet to get above the overcast, and the visibility at Resolute was only 1 to 3 miles with blowing snow and ice fog. At Crystal II this morning was 10° above zero and at Resolute 24° below. Fortunately the plane was heated, so it was not necessary to wear heavy clothing inside. ¶ After leaving the vicinity of Crystal I today, which was not much, there was no different weather but I saw last night that there was a fair [illegible] from [illegible] but just [illegible] the bay. There was a very dense haze, much in contrast to the buildings of the camp. ¶ By 1015 we were up to 8,000 feet and still not out of the clouds. It was rather uncomfortable because of the rarified atmosphere. There were not enough oxygen masks to go around — as a matter of fact, only one for the passenger. Actually, there were two masks but the navigator had the wrong type of adapter for the outlets of the plane. However, I sat quietly while everyone else was standing up and walking around so I didn't suffer too much, and didn't need the mask either. ¶ When we reached the north end of Foxe Basin, suddenly there wasn't any overcast anywhere. All the rest of the way to Resolute there was unlimited visibility. As we passed over Baffin Land, first the land was very low and flat and featureless, except for occasional rivers and lakes, and esker. Then there was very gradually rising to a central belt of very [illegible] hundred feet. There were [illegible] lakes and pools and some streams. There were complexly twisted [illegible] stream courses, [illegible] cliffs bold [illegible], and nearer Regent Inlet shore there were a few small

canyons. In general, this shore, which we were at Cape Kaye was neither very flat nor very cold. Hills of gentle slope were close behind the beach. A Prince Regent Inlet showed signs of considerable ice movement. There was a conspicuous pleasure dome 1½ mile or so offshore south of our course, and north of it there was a wide, open shore lead, which after a few miles turned abruptly and bisected the inlet from the shore to the offing. Also there were smaller leads running in various directions beach paralleling. We passed over the castellated coast of Somerset Is. at the second bay north of Fury Point and then turned northward toward Cunningham Inlet. The cliffs start as nothing at Fury Point and grow higher and higher northward. The coast around Cresswell Bay is low. Along the palisaded coast lay numerous branch inlets and bays stretch inland at frequent intervals and either and you in the interior. All B the interior is a remarkably level plateau without any prominent features except the canyons. Some small patches were flown clear of snow. The ice edge is bold but with now frequent low areas. Prince Regent Inlet Coast. We passed Cunningham Inlet, and then struck straight across narrow strait to assist at Bay, and then turned into Resolute. The ice in the strait was unbroken. The landing on the lake at Resolute was smooth and came at 1245 (1145 local time) — 4 hours 45 minutes from Cape III. There are about 75 people at Resolute now, segregated into three groups — weather, ionospheric, and air force. Each has its own living quarters and mess hall. Our transient quarters is a comfortable prefabricated hut with double deck bunks and a couple of oil heaters. There is such a continuous chatter of dirty jokes that it is difficult to get any

SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM
WASHINGTON 25, D. C.

writing home. The food in the mess hall is good and well prepared and there is always more than enough to go around. The snow is fairly deep, but is powdery and hard packed and easy to walk on. I have never before seen it so clear at Resolute. Today there was not a cloud in the sky, which was sort of a baby blue color. The people here say it has been that way for some time. There was almost no wind. It is still fairly light outside at 10 PM, and even at midnight (August is at 7:30 PM) it is not entirely dark. This is the first experience I have had with temps far below zero temperature. It does not seem so cold, perhaps because I have good clothing, but the fact that breath causes hoar frost to form on everything it touches shows that it is rather cold. My glasses pose quite a problem when I have to come indoors, for instead merely fogging, they ice up. The clothing I am using consists of T-shirt and OD shirt, shorts, long handle underwear pants, OD pants, and windbreaker pants; two pairs of wool socks, felt boot socks, and mukluks (knee length canvas boots with soft leather moccasin type foot and inner sole consisting of 24 layers of burlap); parka with pile liner and wolverine fur ruff, pile lined cap, pile and leather mittens with two wool inserts. I spent the afternoon helping load and unload planes and found my clothing almost too warm. ~~There are supposed to be 4 C-54's, 2 C-82's, and 2 C-47's needed to complete the airlift to the outposts.~~ Three flights were completed to Eureka today. There are four mounties here! Harry Aiken of the Resolute Post, Johnnie Bernach and Don Nelson from Dundas Harbor and Johnnie's replacement. Don and Johnnie left Dundas on the 24th of February to make the 650 mile trip across the icecap to Jones Sound, along the north side of Devon to Lake Hazen, across to Wellington Channel, and down to Resolute where they arrived 24 March. This round about way is must be taken rather than the direct 200 mile route because of open water and very rough pressure ice which flank the cliffs along the south coast of Devon. I checked my permits with Harry and

then went over trail notes with Don. Mail came up today from Goose Bay on a 54 which followed us. I got two letters.

5 April 1949 Resolute Bay, Cornwallis Is. ~~Today~~ Every day I spent helping load planes, digging supplies out of the snow, and moving food supplies and oil drums to the landing area. ~~It was only about 15° below zero, but there was a mean breeze and by afternoon there was blowing snow up to 500 ft, and no horizon.~~ ~~There was a rainbow halo around the sun and a mirror image off to the side.~~ One day blowing snow up to 500 ft caused a halo. Three of the mounties took off ~~this morning~~ on the 5th on a four day sledge trip to the west coast of Cornwallis in quest of seals for dog food. A similar trip eastward the other day met with no success. Sometimes we had to load planes before breakfast and after supper in order to keep the lift going full blast. Working from 6AM to 9PM made the days seem very long and the nights very short since I wasn't used to such physical exertion! Talk about being stiff and sore! In five days tho I was as tough as the best of them. I quickly got used to the cold too and discarded my heavy parka in favor of a much lighter and less cumbersome Navy paper lined jacket. The temperature varied a great deal, from 30° below zero up to only 1° below (on the 6th). On days when the wind was not blowing the cold was not at all objectionable but what a difference a 10 or 15 mph wind made! Most of the days were fairly still. Generally there were no clouds at all in the sky which because of the snow glare had an odd but beautiful pastel baby blue color. Sometimes the wind set the snow to blowing and caused everything up to 500 ft. to be obscured as in a snow storm. Yet it was perfectly clear and sunny above this layer. One day blowing snow caused a rainbow halo around the sun

and a mirror image halo off to the side. Another time there was an odd refracting phenomenon at sunset. There had been blowing snow all day, but now the wind had calmed and there was virtually none noticable. Nevertheless there was a rainbow — with two vertical ends but no middle and with the sun in between. When all the Eureka sound stuff had been moved we commenced on the Isachsen and Prince Patrick jobs. These went slowly at first because snow kept drifting up their ice airstrips incidentally the Isachsen strip at this time of year is the two mile long lake just south of camp — the snow is kept scraped clear and the runway is long enough so that even the fully loaded C-54's use only half its length in take off). One of the songs the boys sing is "Waiting for the planes to come in — so we can load 'em up again." The stuff we are loading was the cargo brought up last summer by TF 80. It is located in numerous dumps or caches, all of which are completely buried in drifted snow, and which must be dug out and loaded on tractor drawn sleds. On the 8th we had a beating spell during the morning so McDonald and I went for a walk across the bay. First we walked out across the ice to a pressure ridge at the entrance of the bay, about where the ships had anchored last summer. From the shore this seemed only a few hundred yards distant and only a few feet high, but after we had covered the ~~mile~~ and a half out to it it turned out to be ~~actually~~ a jumble of ice actually about 50 feet high. It was possible to see far down between the massive cakes, perhaps clear to the water. Most of

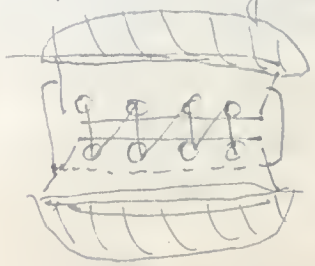
SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM
WASHINGTON 25, D. C.

The bay was ~~covered~~ with hummocks a few feet high which completely spoiled it as a possible landing site, though the east side there was an unobstructed stretch of considerable extent. Also the ice was not flat but rolling - with ridges and depressions. A lot of the ridges were formed of snow drifts. Walking was very easy and walking across the bay certainly beats walking around it. The only animal sign we noticed was of fox and dog. Near the center of the bay we picked up an old fox droppings which consisted of material such as corn, which must have been scavanged from the garbage dump. There was one set of fresh fox tracks at the head of the bay, but none at all on the east side. This animal walked for awhile on the beach and then out onto the ice. At a pressure ridge it had dug down thru the snow in an ice crack and apparently into the space beneath the ice (this was in the shallow part of the bay which was frozen clear to the bottom). Fox tracks were also reported along the far shore of the Landing strip lake. Apparently foxes are very scarce now as contrasted to their abundance of two years ago. Lemmings are more numerous tho. Frank Faria says tracks are seen about the mess hall after fresh snow and this afternoon (8th) between camp and the airstrip I noticed a new trail which I followed for fifty yards before losing it in hard packed snow. I had a session on dogs with Tom MacAvoy who is head of the Search and Rescue dog kennels at Goose Bay. There are seven or eight dogs at Mould Bay of which, however, six are puppies. I would like to develop some of them to help me this summer. It is not likely that I could do much with making up a team, but it might be possible to break ~~some~~ a couple of them for back packing. The pack must be carried well forward, over the ~~top~~ shoulders, and the weight

must be increased gradually until the dogs muscles can support a heavy load, perhaps thirty or forty pounds. Huskies are developed for pulling and thus have very strong shoulders, while the muscles of the small of the back are relatively weak. Tom suggested that I start to break the dog in by leading it around with an empty pack. ~~There are two~~ He diagrammed two types of pack harness which he has seen used.

underside of packs and straps are lined with felt or some other soft material

The second type is a sort of corset which is made of canvas and is patterned to fit the individual dog. It ~~to~~ is lined with felt. ~~and~~ It is one piece ~~and~~ is laced thru eyes along the dog's back:

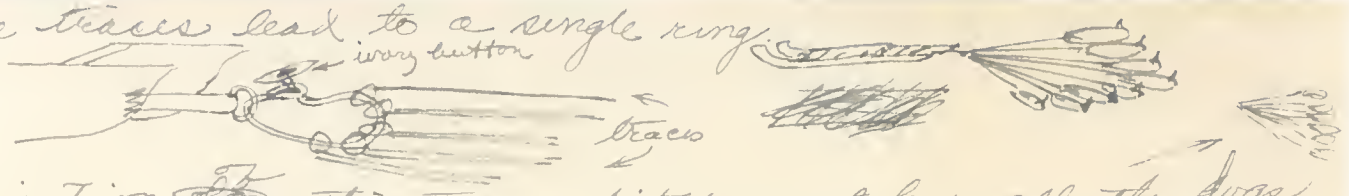


This type would be simpler to make and seemingly would ride better on the dog. If I could train a dog to carry the two two gallon kerosene cans which I have, it would greatly simplify pack trips. How I am going to manage to carry sleeping bag, food, stove, fuel, ammunition and specimens I have not yet figured out. Perhaps the best plan will be to work out away from base camp by stages, moving ten or fifteen miles between each new temporary camp site, ~~working~~ collecting a day or more from that point, and leaving a specimen cache to be picked up on the inward trip. By living off the land to a certain extent, such a trip might be extended to ten or fifteen days. What now seems to be the most logical procedure for the summer is primarily to establish a study area ~~near the coast~~ to be worked intensively and secondarily to make occasional exploratory forays to more distant portions of the island. If I can arrange an air reconnaissance flight over the island at the completion of the airlift it will certainly be a boon to my orientation and should greatly simplify and improve the coverage of the best portions of the island. It might also prevent the overlooking of some good areas. The next step, after I become established at

SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM
WASHINGTON 25, D. C.

would say would be to thoroughly familiarize myself with the country within say a ten mile radius of the station by means of short daily hikes. Then after it warms up some, maybe in May sometime, longer overnight jaunts might be taken. If the best potential study area is located inconveniently far from the station, then it would be well to establish a supply cache there for a base camp while transportation by sledge over the snow is still possible. Such a cache would consist of a small pyramidal tent, a fuel drum, taxidermy supplies, and food. Mr. Hubbard has suggested the base of the peninsula between Mould Bay and Walker Inlet as a possible site. The mounties say that dogs give protection against polar bears. They immediately chase after the bear, often even before it is in sight of camp, and hold it at bay while the hunter can approach for a close, easy shot. Often the first sign of a bear is the silent padding of the dogs out of the quiet as they hurry out to engage the bear. The dogs infuriate the bear and it usually makes off in a gallop or stands its ground and lunges this way and that at the pestiferous dogs. If the bear comes into camp before it is detected, the safest procedure ~~is~~ for humans is to squat down ~~and~~ to appear as small and doglike as possible, and to remain motionless. The bear's eye sight is not ~~as~~ good, ~~as its nose~~ and, as long as it's being paid off by the dogs, it is likely to ignore a human ~~which~~ who uses these tactics. The mounties ~~use~~ give preference to a heart shot, either just behind the forelegs or in the chest on a head on shot. They have killed both male and female bears on their Feb-April patrols, frequently females with year old cubs. In March 1948 Johnnie Bicnock saw a pair of bears mating. They do not knock their dogs teeth out to prevent their eating harness as I have read is sometimes done. They have their troubles too. On the trip over here this spring the dogs ate their walrus hide whip (a few days later a two foot section of it was found in droppings), and both of their harnesses. As in most other Eastern Arctic areas they use their teams in a fan type of hitch. The lead dog has the longest trace and the others on either side of him have progressively shorter traces.

all the traces lead to a single ring.



a variation ~~for~~ this type of hitch is to have all the dogs shoulder to shoulder. These hitches are designed for travel over rough ice, ~~ma~~making it possible for always at least some of the dogs to be pulling, tho others may be picking their way around chunks of ice or crawling out of holes. This would be impossible with the two file tandem hitches used in Alaska and other forested areas, where the dogs are usually pulling on trails, or ~~smaller~~ smoother areas than ~~pack~~ rough ice. The dogs are usually fed one to two pounds of food per day and may be either chained or left free at night.

Made in United States of America

Reprinted from The Wilson Bulletin
Vol. 62, No. 3, September, 1950

THE BRANT OF PRINCE PATRICK ISLAND, NORTHWEST TERRITORIES

BY CHARLES O. HANDLEY, JR.

THE BRANT OF PRINCE PATRICK ISLAND, NORTHWEST TERRITORIES

BY CHARLES O. HANDLEY, JR.

THE systematic relationships of the small, black-headed geese of the genus *Branta* have long been a center of lively controversy. Opinion has varied as to whether they belonged to one species or two. Birds wintering in Europe are now believed to belong to a single species, *Branta bernicla* (Linnaeus), and two races of this species are considered valid—a dark-bellied one, *bernicla*, breeding in western Siberia and on islands north of the European mainland, and a light-bellied one, *hrota* (O. F. Müller), breeding in the eastern American arctic and on islands northwest of Europe (Witherby *et al.*, 1939: 215). *Hrota* winters extensively in the New World also, especially along the Atlantic coast. The distinctness of a third form, *nigricans*, breeding in eastern Siberia and the western American arctic, has never been denied. With it the problem has been one of degree of difference. Is it related to *B. bernicla* as a subspecies or as a species? G. N. Lawrence described it as a full species. For a long time it was regarded as such, but ornithologists who visited the western American arctic continued to report the presence of both *nigricans* and *hrota* there in summer. Series composed of breeding *and winter* specimens from various parts of North America could be arranged in such a way as to show almost complete intergradation between the two forms. This intergradation, which allegedly could "be traced over the circumpolar circle in northern Europe and Asia" (Taverner, 1926: 110) was accepted by taxonomists as evidence that the forms were not biologically isolated hence not specifically distinct. *Nigricans* was therefore reduced to subspecific rank in the 19th supplement to the third edition of the A.O.U. Check-List of North American Birds (1944. *Auk*, 61: 443).

The area throughout which the breeding ranges of *hrota* and *nigricans* are believed to overlap is extensive. Bent (1925: 238), on Taverner's authority, states that both forms have been taken on Melville Island, Northwest Territories. Taverner (1926: 110) states that "light and dark-bellied birds seem to meet in the islands of Franklin [i.e., the Arctic Archipelago] without interbreeding. . . ." Gavin (1947: 198) discovered separate nesting colonies of both *nigricans* and *hrota* in the Perry River district south of Queen Maud Gulf. Hanson, Scott and Queneau (1949: 226) also found both these forms at Perry River, but apparently only *nigricans* was nesting that season. The comments of Bird and Bird (1936: 606), Schiøler (1925: 497–523), and Jourdain (1936) suggest that the breeding ranges of *nigricans* and the nominate race overlap in western Siberia.

If *nigricans* and *hrota* do actually interbreed anywhere in the western American arctic, it is somewhat surprising (a) that no one has encountered mixed

pairs in that vast area; and (b) that there are so few *true* intermediates in museum collections. By 'true' intermediates I mean *breeding* specimens neither dark enough below for *nigricans* nor light enough below for *hrota*, *and collected in the area of overlap*. Numerous specimens have been preserved which are intermediate in a very broad sense. Most *B. b. bernicla* of the Old World are neither dark enough below for *nigricans* nor light enough below for *hrota*, yet obviously those far removed birds are not intermediates between *nigricans* and *hrota* in a genetic sense. Moffitt (1932: 308) says: "I know of no single specimen ever having been procured in America showing indications of interbreeding."

In the course of investigations on Prince Patrick Island, Northwest Territories, in 1949, I found both *nigricans* and *hrota* common as nesting birds. *Nigricans* was the more numerous. The two forms arrived almost simultaneously, giving no hint of any difference in migration routes. This was not surprising, perhaps, in view of the lateness of the arrival date. The first birds I saw appeared to be a pair. They came in on 12 June, a dreary, foggy day. They circled back and forth low over the snow-covered river delta, the coastal hills, and unbroken ice of the bays, searching for open water or a bare spot of land on which to alight. I could not identify them except as brant. On the 15th I saw four flocks. One flock, composed of four *nigricans*, grazed on a small spot of lush grass and moss tundra which had melted clear of snow. They were reluctant to fly as I approached and returned to the same spot after I had moved away. Other flocks, proclaiming their arrival with a musical honking and croaking, were migrating up icebound Crozier Channel. A flock of eleven came in low over the ice and lit at a meltwater pool on the beach near my camping spot. They rested, drank, bathed, preened, chased each other around with extended necks as though courting, gabbled continuously, and occasionally uttered soft honking notes. Most of these birds appeared to be *nigricans*, but two were quite light and may have been *hrota*, although I could not be sure. The first undoubted *hrota* I observed on 17 June. That day I collected a pair as they grazed on a muskeg island which had just emerged from the snow of a river delta. On subsequent days brant frequently visited this same area, but the two forms almost always kept separate from each other.

As soon as the south and west slopes began to clear of snow, the brant commenced nesting. The tundra was more than eighty percent snow covered, and snowshoes were still necessary for travel, when on 22 June, on the gentle, well vegetated lower slopes of a mountain three miles inland, I located my first nests. These slopes were among the first vegetated areas to dry out sufficiently to allow nesting. I observed about a dozen pairs of brant scattered over several square miles, and found three nests. One of the nests contained four eggs, so it must have been started soon after 12 June. In addition to the nesting pairs, I saw several flocks of four to twenty individuals on the nesting area. These birds were so intent on grazing that I could not help believing that they had

just arrived. This was the first date on which I observed large numbers of brant. Pairs of typical *hrota* and pairs of typical *nigricans* both nested on these same slopes, with nests as little as two or three hundred yards apart. Other nests, less than a dozen in all, and scattered widely, I found on other well vegetated dry tundra in the vicinity, but I found no colonies. With the exception of two destroyed nests on rocks near the beach, all nests that I found were at least one mile inland.

Nesting habitat of Brant on Prince Patrick Island in mid-July. The bird is a Long-tailed Jaeger (*Stercorarius longicaudus*) at its nest. Note the snowbank; the bareness of the distant slopes; and the prevalence of grass in the foreground. Photograph by Charles O. Handley, Jr.

The summering population probably totalled fewer than one hundred individuals. A large number of these apparently did not attempt to nest. It is possible that the late thaw had much to do with this. The tundra was still seventy percent snow covered by 30 June. In general, the summering flocks did not mix, although they used the same tundra and the same ponds to a large extent.

All the nests which I found were destroyed by dogs or foxes (*Alopex*), although the fox population appeared to be not unusually high. Very few goslings

were found. The earliest of the season were located by S. D. MacDonald of the National Museum of Canada on a shore-lead on 23 July. I am not sure of the form to which these belonged because I did not see the parents. I found other broods, a total of five in all, on inland ponds on 29 July and 3 August. Three of these broods were *nigricans*. I am not sure that any of the young brant were able to fly by the time of the freeze-up the first week of September. The only one upon which I could keep a check was about three-fourths grown and partly fledged on 30 August.

The fall migration, which began about the first of August and continued to the end of the month, seemed to proceed in a leisurely manner. The birds apparently left the island a few at a time throughout this period, in flocks varying from four to thirty individuals. The last *nigricans* were observed on 30 August, the last *hrota* on the 31st. I was surprised on 14 August to encounter a flock of about four hundred individuals grazing in a flooded meadow along Crozier Channel. The only portion of the flock that I could see clearly appeared to be *nigricans*. Perhaps this flock was made up of birds which had summered farther to the northeastward on Prince Patrick, on the Bordens, or in Isachsen Land, all of which places are known to be inhabited by brant. I think there were few, if any, local birds in the flock.

In summary it may be stated that both the Black Brant, *nigricans*, and the American Brant or Light-bellied Brant, *hrota*, nested on Prince Patrick Island in 1949. Differences in arrival and departure dates of the two forms were slight and probably insignificant. The two forms nested in the same habitat, even on the same slopes more or less side by side, showing no ecological separation. Neither form nested in colonies. Non-breeding birds of both forms frequented the same ponds and tundra. I observed no mixed breeding pairs and only infrequently observed what I thought to be a mixed flock. Thirteen adults collected at random for the U. S. National Museum were all typical of one form or the other. Nine were *nigricans*, four were *hrota*, none was intermediate.

So-called intermediates between *nigricans* and *hrota* which have from time to time been taken in North America may not be true intermediates (i.e., intermediates in a genetic sense). They may be stray *Branta b. bernicla*. It would be hardly reasonable to suppose, however, that two such apparently closely related forms, nesting in intimate association as they did on Prince Patrick Island in 1949, would not occasionally interbreed. Since I did not actually observe any such interbreeding, and since the two forms appeared to be biologically isolated despite their geographical and physical proximity, they should, I believe, be considered specifically distinct.

Literature Cited

Bent, A. C.
1925 Life histories of North American wildfowl. Order Anseres (part). *U. S. Natl. Mus. Bull.* 130:237–258.

Bird, C. G. and E. G. Bird
1936 The forms of the brent goose (Branta bernicla L.). *Ibis*, 1936, pp. 605–608.
Gavin, Angus
1947 Birds of Perry River district, Northwest Territories. *Wilson Bulletin*, 59:195–203.
Hanson, H. C., Peter Scott and Paul Queneau
1949 1949 Perry River Expedition. (In: Waterfowl populations and breeding conditions, summer 1949, by W. F. Crissey et al.) Special Report: Wildlife No. 2, U. S. Fish and Wildlife Service and Dominion Wildlife Service, pp. 225–228.
Jourdain, F. C. R.
1936 The forms of the brent goose, Branta bernicla L. *Ibis*, 1936, pp. 202–203 and 829–831.
Moffitt, James
1932 Second annual Black Brant census in California. *Calif. Fish and Game*, 18:298–310.
Schøler, E. L.
1925 Danmarks Fugle, Vol. 1. Indledning og Andefugle (Anseres).
Taverner, Percy A.
1926 Birds of western Canada. *Canada Dept. Mines. Victoria Memorial Museum Bull.* 41:110.
Witherby, H. F., et al.
1939 The handbook of British birds, 3:210–215.

University of Michigan Museum of Zoology, Ann Arbor

BOATS. MOTORS. LIVE BAIT

« « FISHING PARTIES A SPECIALTY

E. PERRY LADD

FISHING GUIDE

CHAZY LANDING CHAZY, N. Y.

SUMMER COTTAGES
ON LAKE CHAMPLAIN

Oct. 10, 1950

Dear Charlie –

As usual, when I begin writing a letter, I have to ask forgiveness for not writing sooner! In this case I feel especially guilty for not having acknowledged receipt of the slides you sent me as well as the many snapshots. I don't remember whether you had left or not when I received word that my camera was out of focus internally. Now that I think of it, you had left because you took my slides or film out and mailed them for me! Any way the Kodak company wrote me that my slides were all bad and suggested that I send my camera in for repairs!! Consequently, the only slides that I had which could be recognized were the ones you sent me after I returned. I mention all this in detail so you will know that I am truly grateful for both the slides and snapshots.

The Mould Bay crew are not the best correspondents, I am learning. I did have one letter from Dean (returning ten books he borrowed to get home with) and one letter from Stuart (returning some cop he borrowed) and one letter from Roy Hayward at Eureka Sound. The rest of the gang have just disappeared. Of course, if I would write a few letters, I might get some answers.

Did you know that when Spring came up here at Patrick, I believe that I was the only friend that Tom Jones had? Funny isn't it.

I was very sorry to read of Mr Hubbard's accident and death. I do believe he was one man in our government who had the interest of his department as his sole objective. The Project will have difficulty in finding a man as honest in his interpretation of his duties as C.J.H.

How was the summer in Labrador? I bet you were going to play with the new installation. Of course, there is always next summer!

« « FISHING PARTIES A SPECIALTY » »

E. PERRY LADD

FISHING GUIDE

CHAZY LANDING . . CHAZY, N. Y.

BOATS. MOTORS. LIVE BAIT

SUMMER COTTAGES
ON LAKE CHAMPLAIN

Sunday Dec. 16th 1950

Dear Charlie —

As you will note by the other sheet of this letter, I began it some months ago! However, rather than rewrite it, I am just enclosing it.

Many things have occupied my mind since I began this letter in October. I hired a gasoline shovel and dug a big minnow pond. I added a little to my fleet of rowboats. I also bought a new truck and I am the distributor of Kendall oil in two counties. The latter project seemed a good idea, for I shall eventually be under the expense of two children in college and I just couldn't make that kind of money in the summer tourist business!

Incidentally, I received a wedding announcement from Dean in Washington but am still waiting patiently for yours! Don't tell me that that

good looking school teacher, Cherie, became alarmed at that blond beard you were sporting!

I have related my experiences many times this summer and fall. Rotary, Kiwanis, Optimist, Lions clubs as well as schools, colleges, churches and civic gatherings. Unfortunately, it is all gratis! I used the slides you sent me to illustrate summer coloring and winter bleakness. Without them I guess my "talks" would have held little interest for anyone.

I received a Xmas card from Bob McKay. He is apparently still in Toronto but he did not even put a return address on the card - just signed it "Bob McKay". Oh well, maybe he has not recovered yet from his two year trick in the Arctic!

I guess I did not tell you that I bought a Cadillac when I returned! However, before you condemn my extravagance let me explain that it was not a new one altho' it is a remarkably good car and a joy to drive after the old rattle traps I have been used to!

Well, this should be enough for this time Charlie. Needless to say, should you ever come near here, be sure and stop or if that is not possible, at least telephone me!

A very Merry Xmas to you Charlie and good luck during the new year.

Sincerely,

Perry